CAROLYN KAO

Stanford, CA

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PROFESSIONAL SUMMARY

Driven to learn quickly, advance programming proficiency and training in Computational Mathematics. Solid background in Quantitative Research and Data Science settings supporting team needs. Motivated team player focused on boosting efficiency and performance with analytical and detail-oriented approaches.

Advanced proficiency in Python, Java, C++, R, MATLAB, Julia, HTML, UNIX and Linux Shell
Intermediate skills in TensorFlow, PyTorch, SQL, SAS, Microsoft Excel and Stata
Earned Chartered Financial Analyst (CFA) Level I

EDUCATION

STANFORD UNIVERSITY — **Stanford, CA**
M.S. Computational and Mathematical Engineering — *Expected Jun 2021*

- Coursework in *Deep Learning (DL), Natural Language Processing (NLP), Reinforcement Learning, Time Series Analysis, Algorithmic Trading, Software Development in Python and C++, Numerical Analysis, Optimization, Stochastic Control Process, Distributed Computing, Mathematical Finance, Differential Equations,* etc.

UNIVERSITY OF CALIFORNIA SAN DIEGO — **La Jolla, CA**
Graduated magna cum laude with 3.878 GPA; Awarded with Honors with Distinction in Management Science; Member of Phi Beta Kappa; Participated in the National Name Exchange in 2018-19
B.S. Applied Mathematics — *Jun 2019*

- Coursework in *NLP, Java OOP, Data Structures, Applied Computing, Probability Theory, Mathematical Statistics, Real Analysis, Optimization, Multivariable and Vector Calculus, Actuarial Mathematics,* etc.

B.S. Management Science (Quantitative Economics) — *Jun 2019*

- Coursework in *Operations Research, Micro/Macroeconomics, Corporate Finance, Financial Markets, Industrial Organization, Accounting, Econometrics, Decisions Under Uncertainty, Financial Mathematics,* etc.

WORK EXPERIENCE

Visit in *at* ***linkedin.com/in/chkao831*** *for older work experience*

Stanford University — **Stanford, CA**
Teaching Assistant in CME 211: Software Development for Scientists and Engineers — *Sep 2020 — Dec 2020*

- Assisted in lectures, held office hours and graded exams & assignments for 20 hours/week under 50% CAship.

Taiwan Semiconductor Manufacturing Company Limited (TSMC) — **Hsinchu, Taiwan**
Etch AI/ML Intern at Frontend Module Pathfinding — *Jun 2020 — Sep 2020*

- Engaged in Etch ML team to optimize SiGe loading effect and accelerate Pilot Run using Active Learning and Transfer Learning, leading to a wafer saving of over 90% in comparison to the manual tuning and further developing a solid foundation for future recipe tuning across patterns.
- Initiated proposals for Idea Forum and filed Trade Secrets particularly in regard to the deployment of Model-Agnostic Meta Learning in Cross Process Layer Recipe Tuning.
- 2nd Place, TSMC Research & Development Internship Final Competition, 2020.
- 3rd Place, TSMC Machine Learning Competition, 2020.

RESEARCH AND PROJECTS

Visit *at* ***chkao831.github.io/portfolio*** *for complete project archive*

Automated Parameter Tuning for Land Ice Simulations with Sandia Nat'l Labs — *Ongoing* at **Stanford, CA**
Using RCNN to Predict S&P 500 Movements in NLP with PyTorch — *Mar 2021* at **Stanford, CA**
Rank Regularized Estimation of Approximate Factor Models — *Mar 2021* at **Stanford, CA**
Artistic Style Generator Using CycleGAN and VGG19 in DL with TensorFlow — *Dec 2020* at **Stanford, CA**
Foreign Exchange Trading with a Distributed Quote Book using Big Financial Data — *Jun 2020* at **Stanford, CA**
Classifying Types of Toxicity in Wikipedia Comments in NLP with TensorFlow — *Dec 2018* at **La Jolla, CA**